

## ABSTRACT OF THE DISCLOSURE

A technique of stably bonding a structure including a carbon nanotube with another structure is to be provided. Also, a nano-device that offers excellent performance and high production efficiency is to be provided.

A polymer and a carbon nanotube are dispersed in a dispersion medium and on a filled liquid in a Langmuir trough, to obtain a carbon nanotube-based structure constituted of a carbon nanotube and the polymer wound around its rounded surface. The carbon nanotube-based structure is adhered to a substrate, and a ligand is immobilized on a side chain of the polymer. A receptor is immobilized on another carbon nanotube-based structure, and the both carbon nanotube-based structures are joined because of a specific interaction between the ligand and the receptor.